

NOVEL COMPOSITIONS FOR USE IN  
BATTERIES, CAPACITORS, FUEL CELLS AND  
SIMILAR DEVICES AND FOR HYDROGEN PRODUCTION

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ABSTRACT

10 This invention provides novel chemical compositions,  
for use as electrode and electrolyte materials and for hydrogen  
production, methods for making these compositions, and methods of  
using these compositions in a variety of applications. The new  
compositions of the present invention comprise: one or more  
transition metal compounds; aluminum; and either at least one soluble  
base or at least one soluble electrolyte in contact with the aluminum.  
15 The present invention may also comprise one or more elements  
and/or compounds having high mobility values for electrons, in some  
applications. This composition is useful as novel electrode/electrolyte  
components in devices such as batteries, capacitors, fuel cells and  
similar devices, and also useful in the direct production of hydrogen  
gas.

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